Before The
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

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In the Matter of	)	
	)	
The Development of Operational,	)	WT Docket No. 96-86
Technical and Spectrum Requirements	)	
For Meeting Federal, State and Local	)	
Public Safety Agency Communication	)	
Requirements Through the Year 2010	)	
	)	

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JOINT REPLY COMMENTS

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EXECUTIVE SUMMARY

In this proceeding, the Commission has raised a concern regarding interference into the Global Navigation Satellite Service ("GNSS") frequency band at 1559-1610 MHz from second harmonics of public safety stations operating in the 794-806 MHz band. The Commission only sought comment on requirements for public safety services to protect GNSS, and it did not invite comments in this proceeding on the validity of the existing out-of-band emissions limits applicable to the Above 1 GHz Mobile-Satellite Service ("MSS") for the protection of the Global Positioning System ("GPS"). Accordingly, the Commission should reject the U.S. GPS Industry Council's attempt to shoehorn issues regarding GPS interference standards for the 1.6 GHz MSS band in the context of this rulemaking proceeding.

The Commission must also reject the GPS Council's attempt to obfuscate the historical and procedural record applicable to protection requirements for GPS. Contrary to the Council's claims, the GPS industry has previously considered that terrestrial uses of GPS are sufficiently covered by protection requirements for MSS adopted for aviation uses. Also, the Council cannot sustain its position that GPS must receive "absolute" protection from harmful interference. That is simply not the case in fact or law. Finally, the Council has not provided one shred of evidence that the Council's proposed alternative standard for public safety services is necessary to protect the radionavigation functions of GPS, or that the standard proposed by the Commission is not sufficiently stringent to achieve the Commission's goal that GPS is "protected adequately against interference."

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JOINT REPLY COMMENTS

Pursuant to Section 1.415(c) of the Commission's Rules, L/Q Licensee, Inc. ("LQL"), Globalstar, L.P., AirTouch Communications, Inc. ("AirTouch"), Iridium LLC, and Iridium U.S., L.P. ("Iridium North America" or "INA"), hereby reply to the comments regarding the notice of proposed rulemaking in the above-referenced proceeding.[1]

LQL, Globalstar, AirTouch, Iridium and INA are taking no position on the technical issues regarding public safety services at 764-776 MHz and 794-806 MHz. However, they urge the Commission to reject the extreme positions advocated by the U.S. GPS Industry Council ("Council") regarding standards for protection of the

[1] See First Report and Order and Third Notice of Proposed Rulemaking, FCC 98-191 (released Sept. 29, 1998) ("NPRM").

Global Positioning System ("GPS") from harmful interference from stations in other services, particularly, the Mobile-Satellite Service ("MSS").

I. THE COMMISSION SHOULD NOT ADDRESS OUT-OF-BAND EMISSIONS STANDARDS FOR MSS IN THIS PROCEEDING.

LQL is the licensee of the Globalstar™ MSS Above 1 GHz satellite system, and is authorized to operate its MSS user uplinks in the 1610-1626.5 MHz band. Globalstar, L.P., a Delaware limited partnership, holds the right to offer capacity on the Globalstar system and owns and operates the international MSS business. AirTouch is the United States service provider for Globalstar through its subsidiary AirTouch Satellite Services U.S., Inc.

Iridium is the commercial operator of the IRIDIUM MSS Above 1 GHz system. Iridium North America is an international CMRS carrier that provides IRIDIUM services in the United States and is the assignee of the blanket earth station license for Iridium subscriber terminals.

GPS operates under the Radio-Navigation Satellite Service ("RNSS") allocation in the 1559-1610 MHz band, specifically at 1565.2-1585.6 MHz.[2] The Commission has adopted out-of-band emissions limits that apply to MSS Above 1 GHz systems for protection of GPS,[3] and, as the Commission notes in the NPRM

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[2] The second and third signal frequencies for GPS have now been announced, and both are farther from the MSS allocation than the current GPS center frequency at 1575 MHz. See "Vice President Gore Announces New Global Positioning System Modernization Initiative," Office of the Vice President (released Jan. 25, 1999).

[3] 47 C.F.R. § 25.213(b).

(¶ 197), the National Telecommunications and Information Administration ("NTIA") has filed a petition for rulemaking to adopt emissions limits to protect the Russian GLONASS RNSS system operating below 1605 MHz band. [4]

LQL, Globalstar, AirTouch Iridium and INA object to the Council's attempt to bring arguments regarding standards for MSS into this entirely unrelated proceeding.[5] In this proceeding, the Commission is concerned with interference into the RNSS band from second harmonics of public safety stations operating in the 794-806 MHz band. (NPRM, ¶ 196). The only connection to MSS is the Commission's question whether the assumptions underlying the limits adopted for MSS, –70 dBW/MHz for broadband emissions and –80 dBW/700 Hz for narrowband emissions, also apply to public safety services. (NPRM, ¶ 199). And, it asked whether the same obligations that are imposed upon MSS systems could feasibly be applied to public safety services. (NPRM, ¶ 200).

However, the Commission made clear that it only sought comment on requirements for public safety services, and it did not invite comments in this proceeding on the validity of the existing standards for MSS or NTIA's proposal for MSS emissions limits. Accordingly, the Commission should reject the Council's

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[4] See Letter from Richard Parlow, Associate Administrator of NTIA, to Mrs. Regina Keeney, Chief, International Bureau (dated Sept. 18, 1997).

[5] See Council Comments, at 13 (referring to NTIA's proposed final emission limit of -70 dBW/MHz for broadband signals and -80 dBW/700 Hz for narrowband signals, the Council states: "Regulation that legitimizes this level of interference clearly does not serve the public interest."). In fact, the NTIA proposal is part of a (continued...)

attempt to shoehorn issues regarding interference standards for the 1.6 GHz MSS band in the context of a rulemaking proceeding that is addressed solely to the establishment of interference standards for the 700 MHz public safety band.

II. THE COMMISSION SHOULD REJECT THE GPS COUNCIL'S ATTEMPT TO SKEW THE PROCESS FOR IDENTIFYING PROTECTION REQUIREMENTS FOR GPS.

Although this proceeding only concerns the impact of stations operating in the 700 MHz public safety service bands on GNSS, the GPS Council does not confine its comments to the matters in issue here. Given the Council's attacks on the MSS industry in many proceedings and its efforts to rewrite the history of protection requirements for GPS, Globalstar, LQL, AirTouch, Iridium and INA believe that it is necessary to set the record straight on these points in this docket.

A. The Emissions Limits to Protect GPS Were Adopted in Contemplation of Terrestrial Uses.

The Council claims that the proposed protection requirements for GPS are inadequate because studies underlying these proposals only addressed protection of GPS receivers in an aviation environment.[6] The Council's claim is disingenuous and inaccurate: Terrestrial uses of GPS receivers were considered at the time the MSS standards for protection of GPS were recommended to the Commission.

(...continued)

"Notice of Proposed Rulemaking" regarding the implementation of GMPCS adopted by the Commission on February 25, 1999.

[6] Council Comments, at 11-13

In 1992, the Commission initiated the MSS Above 1 GHz Negotiated Rulemaking Committee ("NRC") to consider and review technical standards for MSS Above 1 GHz systems.[7] Rockwell International Corporation, a member of the Council, and other users of GPS equipment participated in the NRC. The NRC's working group on interservice sharing issues reviewed and considered protection requirements for GPS and GLONASS.[8] In the course of these discussions, the working group and the full committee considered the requirements to protect terrestrial uses of GPS.[9] Indeed, the working group which addressed this issue dealt with some of the very examples used by the Council.[10]

The consensus of the NRC was that there was a need to protect GPS at 1574.397-1576.443 MHz, and the NRC recommended specific out-of-band emissions limits for this purpose.[11] The NRC recommended that MES's limit the EIRP of out-of-band emissions at these frequencies to –70 dBW/MHz for wideband signals, and -80 dBW for narrowband signals.[12] While these emissions limits were debated primarily in the context of aviation uses, there was no recommendation from the

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[7] See Public Notice (CC Dkt. No. 92-166), 7 FCC Rcd 5241 (Aug. 7, 1992). See generally Report of the MSS Above 1 GHz Negotiated Rulemaking Committee (Apr. 6, 1993) ("NRC Report").

[8] See NRC Report, Att. B to Annex 2, Technical Report on MSS/RDSS Sharing with the Aeronautical Radionavigation and Radionavigation Satellite Services (Mar. 31, 1993).

[9] See id., § 2.5.3.

[10] See id.

[11] See NRC Report, § 3.3.7.

[12] Id., § 5.2.2.7.

NRC to provide different or greater protection for terrestrial-based uses of GPS. Indeed, in considering cases of "[g]round-based GPS navigation by public safety vehicles such as police, fire and ambulances," the working committee stated that

> the relative vehicle motion should bring the public safety vehicle within the minimum spacing for only a short time. This motion effect should allow some improved rejection through navigation solution averaging in the GPS receiver.[13]

In 1994, the Commission proposed to adopt the recommendations of the NRC for protection of GPS.[14] Although the MSS community requested more relaxed requirements, the Commission adopted these recommendations.[15] The rules were adopted as proposed, and no petition for reconsideration was filed regarding protection requirements for aviation or terrestrial uses of GPS.[16] In summary, the GPS industry has previously considered that terrestrial uses of GPS are sufficiently covered by protection requirements for MSS adopted for aviation uses. The GPS

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[13] See Technical Report on MSS/RDSS Sharing with the Aeronautical Radionavigation and Radionavigation-Satellite Services, § 2.5.3.

[14] See Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Mobile Satellite Service in the 1610-1626.5/2483.5-2500 MHz Frequency Bands, 9 FCC Rcd 1094, 1124 (1994) ("Big LEO" NPRM).

[15] See Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Mobile Satellite Service in the 1610-1626.5/2483.5-2500 MHz Frequency Bands, 9 FCC Rcd 5936, 5987-88 (1994) (codified at 47 C.F.R. § 25.213(b)) ("Big LEO" Report and Order).

[16] See Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Mobile Satellite Service in the 1610-1626.5/2483.5-2500 MHz Frequency Bands, 11 FCC Rcd 12861 (1996) ("Big LEO" Recon. Order).

Council has offered no reason why the Commission should accept a change from this evaluation by the parties to the NRC with expertise in the subject matter.

B. The Council's Suggestion That Protection of GPS Is the Commission's "Paramount Objective" Is Indefensible.

In the Council's view, protection of GPS is "absolute," and no countervailing interest can ever outweigh the need for "absolute" protection of GPS.[17] This extremist vision of spectrum usage must be rejected. Absolute protection for GPS is not the law; indeed, no service has such protection.

First, the Council has pointed to no statutory or regulatory basis for its claim that GPS is entitled to a unique status to receive "absolute" protection. Indeed, GPS is not accorded such status.[18] "Absolute" protection is an unattainable goal, which has not been used as the standard for GPS protection generally, or specifically for interference from MSS.

Second, in such an environment, "protection" is necessarily a two-way proposition. When spectrum users are on notice of existing sources of interference, they must build systems that are sufficiently robust to account for the potential

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[17] See Council Comments at 6, 14.

[18] See RTCA, Inc., Assessment of Radio Frequency Interference Relevant to the GNSS, Doc. No. RTCA/DO-235, §§ 5-9 (Jan. 27, 1997). A recently published study by the Applied Physics Laboratory of The Johns Hopkins University noted that there are only three sources (none MSS) of unintentional interference to GPS receivers considered "possible interference threats requiring further analysis" (§ 5.1.1), and that "numerous technology options exist that provide additional GPS interference suppression to mitigate the risks of both unintentional and intentional interference," some costing less than $100.00 (§ 5.1.3). Corrigan, T.M., et al., GPS Risk Assessment Study Final Report (Jan. 1999).

interference which they can anticipate from lawfully operated transmitters. In this case, members of the Council have known since 1993 what would be the recommended level of protection from MSS into GPS receivers. They should not be heard to complain now that they cannot account for deployment of MSS.

Third, the Council supports its demands for protection of GPS with reference to various acts of legislation and executive branch declarations.[19] Yet, such sources do not set standards for out-of-band emissions limits for protection of GPS. They simply implement U.S. policy to support commercialization of GPS. The Commission has the responsibility set the standards for and license commercial radio services that potentially would be required to protect GPS from interference, and the Commission's specific obligation in so doing is to evaluate the public interest, convenience and necessity, balancing all the public interest factors involved.[20] Therefore, the Council's demand that GPS must be absolutely protected at all costs is wrong as a matter of law.

C. The Council Bears the Burden of Producing Evidence to Support its Position on GPS Protection Requirements.

Moreover, even if protection requirements for GPS were "paramount," the GPS Council has offered no evidence to support its claims of the level necessary to meet such a standard. The Council has not provided one shred of evidence that the

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[19] See Council Comments, at 8.

[20] See 47 U.S.C. §§ 303, 307, 309; AT&T Corp. v. FCC, 832 F.2d 1285, 1291 (D.C. Cir. 1987).

Council's proposed alternative standard for public safety services is necessary to protect the radionavigation functions of GPS, or that the existing standard is not sufficiently stringent to achieve the Commission's goal (NPRM, ¶ 199) that GPS is "protected adequately against interference." The Council has simply submitted a stream of allegations and demands with no factual or legal support.

The Council suggests that the burden of producing evidence that a service would not cause interference to GPS rests with the operators licensed in that service.[21] In rulemaking proceedings, the Commission is obligated to make its decision based on substantial evidence in the record.[22] If a party advocating a certain position does not submit evidence to support that position, the Commission cannot adopt it because the Commission may not draw conclusions based on a non-existent record. Moreover, the Council cannot provide just any evidence; it must provide substantial evidence supporting its claims.[23] Given the current state of the

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[21] Council Comments, at 17 ("the burden of evidence must reside with those proposing new operations at 794-805 MHz to show that they do not create harmful interference in RNSS/ARNS bands now used by GPS and GNSS systems"). In a shameless argument, the Council suggests that the circumstances of the Space Shuttle Challenger tragedy provide sufficient rationale for the Commission to shift the burden of evidence to new radio services. Id. at 17-18. But, there is obviously no comparison or precedential connection between the adequacy of NASA's pre-launch protocols and the totally unscientific arguments filed by the Council.

[22] See Motor Vehicles Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 436 U.S. 29 (1983).

[23] See Association of Data Processing v. Bd. of Governors, 745 F.2d 677, 683-86 (D.C. Cir. 1984).

record, the Commission should summarily reject the Council's arguments for failing to provide any supporting evidence. [24]

III. CONCLUSION

For the reasons set forth above, LQL, Globalstar, AirTouch, Iridium and INA urge the Commission to decline to consider the Council's out-of-context arguments regarding MSS, and to reject its arguments regarding its demand for absolute protection for GPS and attempt to shift the burden of producing evidence. The Council continues to file its speculative demands in a variety of contexts.

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[24] See, e.g., Big LEO Report and Order, 9 FCC Rcd at 5987-88 (FAA failed to submit technical analysis to support its proposal to increase protection bandwidth for GPS, and FCC rejected recommendation for this failure to show that such additional protection for GPS is necessary).

The Commission should reject these eleventh hour efforts to rewrite history and to interpose unsupported objections to consensus standards.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, William D. Wallace, hereby certify that I have on this 25th day of February, 1999, caused to be served true and correct copies of the foregoing "Joint Reply Comments" upon the following parties via hand delivery upon:

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